

# Publications 1999

1. Acosta-Martinez, V., Z. Reicher, M. Bischoff and R. F. Turco. 1999. The role of tree leaf mulch and nitrogen fertilizer on turfgrass soil quality. *Biology and Fertility of Soils*. 29:55-61.
2. Agassi, M., J. Letey, W.J. Farmer, and P. Clark. 1995. Soil erosion contribution to pesticide transport by furrow irrigation. *J. Environ. Qual.* 24:892-895.
3. Akhouri, N.M. E.J. Kladivko, and R.F. Turco. 1997. Sorption and degradation of atrazine in middens formed by *Lumbricus Terrestris*. *Soil Biol. Biochem.* 29:663-666.
4. Annable, M D. J.W. Jawitz, P.S.C. Rao, D.P. Dai, H. Kim, A.L. Wood. Field evaluation of interfacial and partitioning tracers for characterization of effective NAPL-water contact areas *Ground Water*. v 36 n 3 May-Jun 1998. p 495-502.
5. Annable, M D. Rao, P S C. Sillan, R K. Hatfield, K. Graham, W D. Wood, A L. Enfield, C G. Field-scale application of in-situ cosolvent flushing: Evaluation approach Non-Aqueous Phase Liquids (NAPLs) in Subsurface Environment: Assessment and Remediation ASCE Specialty Conference, Proceedings 1996. ASCE, New York, NY, USA.. p 212-220.
6. Annable, M.D., J. W. Jawitz, R.K. Sillan, P.S.C. Rao. 1999. In-situ solubilization by cosolvent and surfactant-cosolvent mixtures. In: M.L. Brusseau, D. Sabatini, J. Gierke and M.D. Annable (Editors), Innovative Subsurface Remediation: Field Testing of Physical, Chemical, and Characterization Technologies. American Chemical Society Symposium Series no. 725. Washington, D.C., pp. 86-101.
7. Annable, M.D., J.W. Jawitz, P.S.C. Rao, D.P. Dai, H.K. Kim, and A.L. Wood. 1998. Field Evaluation of Interfacial and Partitioning Tracers for Characterization of Effective NAPL-Water Contact Areas. *Ground Water* Vol. 36(3), pp. 495-502.
8. Annable, M.D., P.S.C. Rao, K. Hatfield, W.D. Graham, A.L. Wood, and C.G. Enfield. 1998. Partitioning Tracers for Measuring Residual NAPL: Field-Scale Test Results. *ASCE Jour Environ Eng*, Vol. 124(6), pp. 498-503.
9. Aochi, Y.O. and W. J. Farmer. 1997. Role of microstructural properties in the time-dependent sorption/desorption behavior of 1,2-dichloroethane on humic substances. *Environ. Sci. Technol.* 31: 2520-2526.
10. Aochi, Y.O. and W.J. Farmer. 1995. Spectroscopic evidence for the rate-limited accumulation of a persistence fraction of 1,2-dechloroethane sorbed onto clay minerals. *Environ. Sci. Technol.* 29:1760-1765.
11. Aston, L.S. and J.N. Seiber. 1997. Fate of summertime airborne organophosphate pesticide residues in the Sierra Nevada mountains. *J. Environ. Qual.* 26:1483-1492.
12. Augustijn, D.C.M., L.S. Lee, R.E. Jessup, M. D. Annable, and P.S.C. Rao. 1997. Remediation of soils contaminated with hydrophobic organic chemicals: Theoretical basis for the use of cosolvents. In: *Subsurface Restoration Handbook*, C.H. Ward, J.A. Cherry, and M.R. Scalf (eds.), Ann Arbor Press, Inc., Chelsea, MI, Chapter 15, pp. 227-244.
13. Baker, J.J., W.C. Koskinen, and R.H. Dowdy. 1995. Herbicides volatilization: Measurement and simulation. p. 17-20. In Proc. Clean Water-Clean Environment 21st Century. Vol. 1, Pesticides. Mar. 5-8, 1995, Kansas City, MO.
14. Banks, M.K., E. Lee, and A.P. Schwab. 1999. Fate of benzo[a]pyrene in rhizosphere soil. *J. Environ. Qual.*
15. Banks, M.K., R.S. Govindaraju, A.P. Schwab, P. Kulakow, and J. Finn. 1999. Phytoremediation of Hydrocarbon Contaminated Soils. Lewis Publishers, Boca Raton, FL. 175 pp.
16. Barber, B. L., W. C. Koskinen, T. Berglof, L. Parker, and L. J. Marek. 1997. Supercritical fluid extraction of pesticide residues from soil. *Agron. Abstr.* 89:324.
17. Barnes, C J. Lavy, T L. Mattice, J D. EXPOSURE OF NON-APPLICATOR PERSONNEL AND ADJACENT AREAS TO AERIALLY APPLIED PROPANIL. *Bulletin of Environmental Contamination & Toxicology*. v 39 n 1 Jul 1987 p 126-133.
18. Benner, M., S. Stanford, R. Mohtar, and L.S. Lee. 2000. Field and Numerical Analysis of In-Situ Air Sparging: A Case Study, *J. of Hazardous Waste Management*, 72:217-236
19. Berglof, T., W.C. Koskinen, and H. Kylin. 1998. Supercritical fluid extraction of metsulfuron methyl, sulfometuron methyl, and nicosulfuron from soils. *Intern. J. Environ. Anal. Chem.*
20. Bhatti, M.A., AK. Al-Khatib, A.S. Felsot, R. Parker, and S. Kadir. 1995. Effects of simulated chlorsulfuron drift on fruit set and quality of sweet cherries (*Prunus avianum* L.). *Environ. Toxicol. Chem.* 14:537-544.
21. Bischoff, M., A. Hiar and R.F. Turco. 1997. Evaluation of nitrate analysis using test strips: Comparison with two analytical laboratory methods. *Commun. Soil Sci. Plant Anal.* 27:2765-2775.
22. Books, M.C., M.D. Annable, P.S.C. Rao. K. Hatfield, J.W. Jawitz, W.R. Wise, A.L. Wood., and Enfield, C.G., 2000. A field-scale demonstration of DNAPL remediation by cosolvent flushing. Submitted to Water Resources Research.
23. Bossio, D.A., and K.M. Scow. 1997. Microbial ecology in agricultural ecosystems: impacts of management changes on the microbial community in a rice production system. *Calif. Agric.* 51: 33-40.
24. Breiter, W. A., J.M. Baker, and W.C. Koskinen. 1998. Direct measurement of Henry's constant for S-ethyl N,N-di-n-propylthiocarbamate. *J. Agric. Food Chem.* 46:1624-1629.
25. Bresnahan, G. A., A. G. Dexter, and W. C. Koskinen. 1999. The effect of soil pH on sugarbeet yield and herbicide degradation. 1998 Sugarbeet Research and Extension Reports. 29:82-88.
26. Bresnahan, G. A., W. C. Koskinen, A. G. Dexter, and W. E. Lueschen. 1999. Influence of soil pH-sorption interactions on imazamox carryover. Brighton Conf.: Weeds, v.1-3:693-698.
27. Bresnahan, G.A., A.G. Dexter, W.C. Koskinen, and W.E. Lueschen. 1998. Influence of soil pH on imazethapyr adsorption and carryover. *Abstr. Weed Sci. Soc. Am.* p. 57.
28. Campbell, C., M. Ghodrati, and F. Garrido. 1999. Comparison of time domain reflectometry, fiber optic miniprobes, and solution samplers for real time measurement of solute transport processes in soil. *Soil Sci.* 164:156.
29. Carrillo, MLK; Letey, J; Yates, SR. 1999. Measurement of initial soil-water contact angle of water repellent soils.

30. Carson, K.H. and T.L. Lavy. 1997. Degradation of chlorimuron by ozonation. Arkansas Crop Pesticide Assoc. p 2.
31. Carson, K.H. and T.L. Lavy. 1997. Method development for degradation of sulfonylurea herbicides by peroxide catalyzed ozonation. Proc. S. Weed Sci. Soc. 50:169.
32. Castro, H.F., N. Williams, and A.V. Ogram. 2000. Phylogeny of sulfate reducing bacteria. FEMS Microbiology Ecology, In Press.
33. Cavalier, T.C. Lavy, T.L. Mattice, J.D. Persistence of selected pesticides in ground-water samples. Ground Water. v29 n 2 Mar-Apr 1991 p 225-231.
34. Cecchi, A.M., W.C. Koskinen, R.H. Dowdy, and K.A. Norberg. 1998. Pesticide sorption on soil solution samplers. Agron. Abstr. p. 207.
35. Celis, R., M. C. Hermosin, J. Cornejo, and W. C. Koskinen. 1999a. Organoclays and organohydrotalcites as sorbents for polar pesticides. Brighton Conf.: Weeds, v.1-3:699-704.
36. Celis, R., and W. C. Koskinen. 1999. An isotopic exchange method for the characterization of the irreversibility of pesticide sorption-desorption in soil. J. Agric. Food Chem. 47:782-790.
37. Celis, R., and W. C. Koskinen. 1999. Characterization of pesticide desorption from soil by the isotopic exchange technique. Soil Sci. Soc. Am. J. 63:1659-1666.
38. Celis, R., J. Cornejo, M. C. Hermosin, and W. C. Koskinen. 1997. Sorption of atrazine and simazine by model soil colloidal components. Soil Sci. Soc. Am. J. 61:436-443.
39. Celis, R., J. Cornejo, M. C. Hermosin, and W. C. Koskinen. 1998. Sorption of atrazine and simazine by model associations of soil colloids. Soil Sci. Soc. Am. J. 62:165-171.
40. Celis, R., W. C. Koskinen, A. M. Cecchi, G. A. Bresnahan, M. J. Carrizosa, M. A. Ulibarri, and M. C. Hermosin. 1999b. Sorption of the ionizable pesticide imazamox by organoclays and hydrotalcites. J. Environ. Sci. Health. B34:929-941.
41. Celis, R., W. C. Koskinen, W. C. Hermosin, and J. Cornejo. 1999a. Sorption and desorption of triadimefon by soils and model soil components. J. Agric. Food Chem. 47:776-781.
42. Chendorain, M. and M. Ghodrati. 1999. Real time continuous sampling and analysis of solutes in soil columns. Soil Sci. Soc. Am. J. 63:464.
43. Cheney, M.A., J.Y. Shin, D.E. Crowley, S. Alvey, N. Malengreau, and G. Sposito. 1998. Atrazine dealkylation on a manganese oxide surface. Colloids Surfaces A 137:267-273.
44. Cheng, H. H. and D. J. Mulla. 1999. The soil environment. In: D. Adriano et al., eds. Bioremediation of contaminated soils. Agronomy 37:1-13. American Society of Agronomy, Inc., Madison WI.
45. Cheng, H. H. and J. Kimble. 2000. Methods of analysis for soil carbon: An overview. p. 333-339. In: R. Lal, J. M. Kimble, and B. A. Stewart, eds. Global climate change and tropical ecosystems. CRC Press, Boca Raton.
46. Cheng, H. H., and J. Kimble. 1998. Characterization of soil organic carbon pools. Intern. Workshop on Assessment Methodology for Soil Carbon Pools, Columbus OH, November 1998. Abstr. #2.
47. Cheng, H.H. 1995. Characterization of the mechanisms of allelopathy: Modeling and experimental approaches. p. 132-141 (Chapter 10). In Inderjit, K.M.M. Dakshini, and F.A. Einhellig, eds. Allelopathy: organisms, processes, and applications. ACS Symp. Series 582. Amer. Chem. Soc., Wash. D.C.
48. Cheng, H.H., and J.A.E. Molina. 1995. In search of the bioreactive soil organic carbon: The fractionation approaches. p. 343-350. (Chap. 28). In R. Lal, F. Kinble, E. Levine, and B.A. Stewart, eds. Soils and global change. CRC Lewis Pub., Boca Raton, FL.
49. Cheng, H.H., J. Gan, W.C. Koskinen, and L.J. Jarvis. 1995. Potential of the supercritical fluid extraction technique for characterizing organic-inorganic interactions in soils. p. 191-197 (Chap. 14). In P.M. Huang, J. Berthelin, J.-M. Bollag, W.B. McGill, and A.L. Page, eds. Environmental impacts of soil component interactions: Natural and anthropogenic organics. Vol.1. CRC Lewis Pubs., Boca Raton, FL.
50. Chung, K.-Y., D.W. Dickson, and L.-T. Ou. 1999. Differential enhanced degradation of cis- and trans-1,3-D in soil with a history of repeated field applications of 1,3-D. J. Environ. Health Sci. B34:749-768.
51. Cisar, J. L., and G. H. Snyder. 2000. Mobility and persistence of pesticides applied to a U. S. Golf Association green. Chap. 7, p. 106-126 in J. M. Clark and M. P. Kenna (eds.) Fate and Management of Turfgrass Chemicals. ACS Symposium Ser. 743. Amer. Chem. Soc., Washington, D.C.
52. Clark, C.J. II, M.D. Annable, P.S.C. Rao, and R.D. Rhue. 1999. Waste Management of a Microemulsion using Electrolyte Addition at Increased Temperatures. Environmental Engineering Science, Vol. 16, No. 3, pp. 217-224.
53. Clay, D.E., S.A. Clay, Z. Liu, and S.S. Harper. 1995. Leaching of dissolved organic carbon in soil following anhydrous ammonia application. Biol. Fert. Soil. 19:10-14.
54. Clay, S.A., D.E. Clay, W.C. Koskinen, and R.K. Berg Jr. 1998. Application method: Impacts on atrazine and alachlor movement, weed control, and corn yield in three tillage systems. Soil Till. Res. 48:215-224.
55. Clay, S.A., W.C. Koskinen, and J.M. Baker. 1995. Alachlor and metolachlor movement during winter and early spring at three midwestern sites. J. Environ. Sci. Health. B30:637-650.
56. Collins, R. T., and C. S. Helling. Glyphosate-surfactant-carrier systems for Erythroxylum sp. control. In Research Abstr., Reducing Pesticide Risk: Approaches to Sustainable Pest Management, USDA-ARS Workshop, Dec. 2-4, 1997. p. 8. 1997. [Workshop]
57. Conant, B.H., and P.S.C. Rao. 2000. Struggling with the Meaning(s) and Measures of "Success". Invited Editorial, Ground Water, In Press.
58. Cox, L., W. C. Koskinen, and P. Y. Yen. 1997. Sorption-desorption of imidacloprid and its metabolites in soils. J. Agric. Food Chem. 45:1468-1472
59. Cox, L., W. C. Koskinen, R. Celis, P.Y. Yen, M.C. Hermosin, and J. Cornejo. 1998a. Sorption of imidacloprid on soil clay and organic components. Soil Sci. Soc. Am J. 62:911-915.
60. Cox, L., W.C. Koskinen, and P.Y. Yen. 1998d. Imidacloprid sorption-desorption in soil. Proc. World Cong. Soil Sci. Symp 7:1-7. Aug. 20-26, 1998, Montpellier, France.
61. Cox, L., W.C. Koskinen, and P.Y. Yen. 1998b. Changes in sorption of imidacloprid with incubation time. Soil Sci. Soc. Am J. 62:342-347.
62. Cox, L., W.C. Koskinen, and P.Y. Yen. 1998c. Influence of soil properties on sorption-desorption of imidacloprid. J. Environ. Sci. Health B33:123-134.
63. Cunningham, S.D., T.A. Anderson, A.P. Schwab, and F.C. Hsu. 1996. Phytoremediation of soils contaminated with organic pollutants. Advances in Agron. 56:56-114

64. D.L. Nofziger, A.G. Hornsby, and D.L. Hoag. 1998. Pesticide Economic and Environmental Tradeoffs (PEET): Developers Perspective. Pages 83-92. In El-Swaify, S. and D.Yakowitz (eds.) Multiple Objective Decision Making for Land, Water, and Environment. St. Lucie Press Corporation, Delray Beach, FL. 743 pages
65. Das, B.S., J.M. Wraith, and W.P. Inskeep. 1999. Soil solution electrical conductivity and nitrate concentrations in a crop root zone estimated using time domain reflectometry. *Soil Sci. Soc. Am. J.* 63: 1561-1570.
66. Datta, S.K., L. Hansen, L.L. McConnell, J. Baker, J. LeNoir and J.N. Seiber. 1998. Pesticides and PCB contaminants in fish and tadpoles from the Kaweah River Basin, California. *Bull. Environ. Contam. Toxicol.* 60:829-836.
67. Datta, S.K., L.L. McConnell, J.E. Baker, J. LeNoir and J.N. Seiber. 1998. Evidence for atmospheric transport and deposition of polychlorinated biphenyls to the Lake Tahoe Basin, California, Nevada. *Environ. Sci. Technol.* 32:1378-1385.
68. David, M.D. and J.N. Seiber. 1999. Accelerated hydrolysis of industrial organophosphates in water and soil using sodium perborate. *Environmental Pollution* 105:121-128.
69. David, M.D. and J.N. Seiber. 1999. Analysis of organophosphate hydraulic fluids in U.S. Air Force Base soils. *Arch. Environ. Contam. Toxicol.* 36:235-241.
70. Dewell, R.A. and T.L. Lavy. 1997. Comparing economics and performance between four different solid phase extraction disks. *Proc. S. Weed Sci. Soc.* 50:193.
71. Dewell, R.A. and T.L. Lavy. Identifying factors which influence the fate of pesticides in water used for rice production. Arkansas Water Resources, MSC-210, May 1997. p 1-9.
72. Dick, R.P., D.P. Breakwell, and R.F. Turco. 1997. Soil enzyme activities and biodiversity measurements as integrative microbiological indicators. In: *Handbook of Methods for Assessing Soil Quality*. J. Doran (ed), Am. Soc. Agron. Special Publ., Chapter 15.
73. Doherty, M. A., C. S. Helling, and R. Dawson. A priori estimation of herbicide joint action. *Abstr. Book, Ann. Mtg., Soc. Environ. Toxicol. Chem.* 18:180. 1997.
74. Doherty, M. A., C. S. Helling, and R. Dawson. 1997. Effect of five herbicides on the biochemistry and growth of the diatom *Thalassiosira weissflogii*. *Abstr. Book, Ann. Mtg., Soc. Environ. Toxicol. Chem.* 18:180.
75. Dowdy, R.H., J.A. Lamb, J.L. Anderson, W.C. Koskinen, D.C. Riecosky, and R.S. Alessi. 1995. Atrazine and alachlor leaching under corn/soybean canopies. p. 65-68. In *Proc. Clean Water-Clean Environment 21st Century*. Vol. 1, Pesticides. Mar. 5-8, 1995, Kansas City, MO.
76. duPlessis, C.A., K.A. Kinney, E.D. Schroeder, D.P.Y. Chang, and K.M. Scow. 1998. Denitrification and nitric oxide reduction in an aerobic toluene-treating biofilter. *Biotech. Bioeng.* 58:408-415.
77. El-Farhan, Y.H., D.E. Rolston, and K.M. Scow. 1998. Coupling transport and biodegradation of toluene and trichloroethylene in unsaturated soil. In: Hopmans, J., and M. Parlange (eds.) *Vadose zone hydrology; cutting across disciplines*.
78. El-Farhan, Y.H., K.M. Scow, L.W. deJonge, D.E. Rolston, and P. Moldrup. 1998. Coupling transport and biodegradation of toluene and trichloroethylene in unsaturated soils. *Water Resources Res.* 34:437-445.
79. Eweis, J.B., E.D. Schroeder, D.P. Chang, and K.M. Scow. 1998. Biodegradation of MTBE in a pilot-scale biofilter, p. 342-346. In: Wickramanayake, G.B. and R.E. Hinchee (eds). *Natural attenuation*. Chlorinated and recalcitrant compounds. Battelle Press, Columbus, Ohio.
80. Fabrega, J., C.T. Jafvert, H. Li, and L.S. Lee. 1998. Modeling short-term soil-water phase distribution of aromatic amines. *Environmental Science & Technology*, 32:2788-2794.
81. Felsot, A. S. 1997. Rights-of-way & forestry buffers. pp. 40-44 In Proceedings of the Forestry and Rights-of-Way Conference, November 18-19. Pacific Northwest Integrated Vegetation Management Association, Portland, OR.
82. Felsot, A. S. 1997. The art of analysis. pp. 30-35 In Proceedings of the Forestry & Rights-of-Way Conference, November 18-19. Pacific Northwest Integrated Vegetation Management Association, Portland, OR.
83. Felsot, A. S. 1999. Boffo buffer zones. How big is big enough? *Agrichemical & Environmental News* (November) 163:14-18.
84. Felsot, A. S. 1999. One drip at a time. Alternative chemical application techniques for environmental stewardship. *Agrichemical & Environmental News* (July) 159:12-14.
85. Felsot, A. S., and E. K. Dzantor. 1997. Potential of biostimulation to enhance dissipation of aged herbicide residues in landfarmed waste. In *Phytoremediation of Soil & Water Contaminants*. E. Krueger, T. Anderson, and J. Coats, eds. Am. Chem. Soc. Symp. Ser. 664, pp. 77-91.
86. Felsot, A.S. 1998. Landfarming pesticide-contaminated soil. In *Pesticide Remediation in Soils and Water*, P. C. Kearney, and T. Roberts, eds. Wiley Series in Agrochemicals & Plant Protection, John Wiley & Sons, New York. pp. 129-160.
87. Felsot, A.S. 1998. Numbers, numbers everywhere-and not a drop of meaning. *J. Environmental Law and Litigation*, vol. 13 (in press).
88. Felsot, A.S. 1998. User sites and the generation of pesticide waste. In *Pesticide Remediation in Soils and Water*, P. C. Kearney, and T. Roberts, eds. Wiley Series in Agrochemicals & Plant Protection, John Wiley & Sons, New York. pp. 1-19.
89. Felsot, A.S. 1995. Options for cleanup and disposal of pesticide wastes. *Pesticide Chemistry for Sustainable Agriculture*, 5th European Conference. Budapest, Hungary. 15-18 May. p. 24.
90. Felsot, A.S. 1995. Using sentinel plants as biomonitoring of point-source herbicide drift and nonpoint regional transport and deposition. *Abstr. XXVIIth Eastern Canada Pesticide Residue and Environ. Contaminants workshop and Symposium on Environmental Behavior of Pesticides*. Sault Ste. Marie, Ontario, Canada. 24-27 May.
91. Felsot, A.S. 1998. Enhanced biodegradation of nematicides in soils from Central American banana plantations. Abstract O 017, p. 60, Book of Abstracts, International Conference on Pesticide Use in Developing Countries: Impact on Health and Environment. San Jose, Costa Rica, 23-28 February.
92. Felsot, A.S. 1998. Re-examining the link between nitrates and methemoglobinemia: Why focusing on nitrates alone will not protect public health. *Agriculture and Water Quality in the Pacific Northwest Conference*. Abstract Proceedings, p. 48. Yakima, WA. 20-21 October.
93. Felsot, A.S., and E.K. Dzantor. 1995. Effect of alachlor concentration and an organic amendment on soil dehydrogenase activity and pesticide degradation rate. *Environ. Toxicol. Chem.* 14:23-28.
94. Felsot, A.S., J.K. Mitchell, and E.K. Dzantor. 1995. Remediation of herbicide-contaminated soil by combinations of

- landfarming and biostimulation. p. 237-257. In Bioremediation: Science and Applications. H.D. Skipper and R.F. Turco, eds. Soil Sci. Soc. Am. Special Pub. Number 43.
- 95. Felsot, A.S., W. Cone, J. Ruppert, and L. Wright. 1998. Drip chemigation of imidacloprid: soil distribution, plant uptake, and efficacy in hop yards. Poster 2D-008, 9th International Congress Pesticide Chemistry: The food-Environment Challenge, Book of Abstracts, vol. 1, topics 1-4. London, UK, 2-8 August.
  - 96. Felsot, A.S., W. Cone, J. Yu, and J.R. Ruppert. 1998. Distribution of imidacloprid in soil following subsurface drip chemigation. Bulletin of Environmental Contamination & Toxicology 60(3):363-370.
  - 97. Feng, X., L.-T. Ou, and A. Ogram. 1997. Cloning and sequence analysis of a novel insertion element from plasmids harbored by the carbofuran-degrading bacterium, *Sphingomonas* sp. strain CF06. Plasmid 37:169-179.
  - 98. Feng, X., L.-T. Ou, and A. Ogram. 1997. Plasmid-mediated mineralization of carbofuran by *Sphingomonas* sp. strain CF06. Appl. Environ. Microbiol. 63:1332-1337.
  - 99. Ferry, M.L., W.C. Koskinen, R. Blanchette, T.A. Burnes. 1995. Alachlor mineralization by lignin-degrading fungi. p. 173-179. In Symposium on in situ and on-site bioreclamation. April 24-27, 1995. San Diego, CA.
  - 100. Foussereau, X., G.A. Akpoji, W.D. Graham, G. Destouni, and P.S.C. Rao. 2000. Solute transport through a heterogeneous coupled vadose-saturated zone system with temporally random rainfall. Water Resour. Res., In Press.
  - 101. Foussereau, X., W.D. Graham, G.A. Akpoji, G. Destouni, and P.S.C. Rao. 2000. Stochastic analysis of transport in unsaturated heterogeneous soils under transient flow regimes. Water Resour. Res. In press.
  - 102. Foussereau, X., W.D. Graham, and P.S.C. Rao. 2000. Stochastic analysis of transient flow in unsaturated heterogeneous soils. Water Resour. Res., In press.
  - 103. Frederick, E.K., C.S. Throssell, M. Bischoff and R. F. Turco. 1996. The Fate of Vinclozolin in Creeping Bentgrass Turf Under Two Application Methods. Bulletin of Environmental Contamination and Toxicology, 57:391-397 1996
  - 104. Fry, M., B.W. Wilson, N.D. Ottum, J.T. Yamamoto, R.W. Stein, J.N. Seiber, M.M. McChesney and E. Richardson. 1998. Radiotelemetry and GIS computer modeling as tools for analysis of exposure to organophosphate pesticides in red-tailed hawks. In: Radiotelemetry Applications for Wildlife Toxicology Field Studies, L. Brewer and K. Fagerstone (Eds), SETAC Press, Society for Environmental Toxicology and Chemistry, Pensacola, FL, pp. 67-83.
  - 105. Fuller, M.E., and K. M. Scow. 1997. Impacts of trichloroethylene (TCE) and toluene on nitrogen cycling in soil. Appl. Environ. Microbiol. 63:4015-4019.
  - 106. Fuller, M.E., and K.M. Scow. 1997. Effect of exopolymers on biodegradation of organic compounds by *Pseudomonas* sp. strains JSA and JS150. Microb. Ecol. 34:248-253.
  - 107. Fuller, M.E., K.M. Scow, S. Lau, and H. Ferris. 1997. Trichloroethylene and toluene effects on the structure and function of the soil community. Soil Biol. Biochem. 29:75-89.
  - 108. Gaber, H.M., W.P. Inskeep, D.S. Comfort, and J.M. Wraith. 1995. Nonequilibrium transport of atrazine through large intact soil cores. Soil Sci. Soc. Am. J. 59:60-67.
  - 109. Gamerdinger, A. P., R.S. Achin, R.W. Traxler. 1997. Approximating the impact of sorption on biodegradation kinetics in soil-water systems. Soil Sci. Soc. Am. J. 61:1618-1626.
  - 110. Gamerdinger, A.P., and D.I. Kaplan. 2000. Application of a continuous-flow centrifugation method for solute transport in disturbed, unsaturated sediments and illustration of mobile-immobile water. Water Resour. Res., in press.
  - 111. Gamerdinger, A.P., D.I. Kaplan, and J.H. Kessler. 1999. Impact of ionic strength on colloid mobility in saturated and unsaturated porous media. In D. J. Wronkiewicz and J. H. Lee (eds) Scientific Basis for Nuclear Waste Management XXII, Volume 556. Material Research Society, Warrendale, PA. p. 737-750.
  - 112. Gamerdinger, A.P., D.I. Kaplan, C.T. Resch. 1998. Uranium (VI) sorption and transport in unsaturated, subsurface Hanford sediments - Effect of moisture content and sediment texture. PNNL-11975, Pacific Northwest National Laboratory, Richland, WA.
  - 113. Gamerdinger, A.P., R.S. Achin, R.W. Traxler. 1995. Effect of aliphatic nonaqueous phase liquids on naphthalene biodegradation in multiphase systems. J. Environ. Qual. 24:1150-1156.
  - 114. Gan, J. and S.R. Yates. 1998. Recapturing and decomposing methyl bromide in fumigation effluents. J. Hazard. Mater. 57:249-258.
  - 115. Gan, J. and S.R. Yates. 1997. Degradation and phase-partitioning of methyl iodide in soil. J. Agr. Food Chem. 44:4001-4008.
  - 116. Gan, J., and W.C. Koskinen. 1998. Pesticide fate and behavior in soil at elevated concentrations. P. 59-84. In P. C. Kearney (ed.) Pesticide Remediation in Soils and Water. John Wiley & Sons, Chichester, England.
  - 117. Gan, J., S.R. Yates, S. Papiernik, and D. Crowley. 1998. Application of organic amendments to reduce volatile pesticide emissions from soil. Environ. Sci. Technol. 32:3094-3098.
  - 118. Gan, J., S. Papiernik, and S.R. Yates. 1998. Static headspace and gas chromatographic analysis of fumigant residues in soil and water. J. Agric. Food Chem. 46:986-990.
  - 119. Gan, J., S.R. Yates, D. Crowley, and J. O. Becker. 1998. Acceleration of 1,3-dichloropropene degradation by organic amendments and potential application for emissions reduction. J. Environ. Qual. 27:408-414.
  - 120. Gan, J., S.R. Yates, D. Wang, and F. F. Ernst. 1998. Effect of application methods on 1,3-dichloropropene volatilization from soil under controlled conditions. J. Environ. Qual. 27:432-438.
  - 121. Gan, J., S.R. Yates, F.F. Ernst, M.V. Yates, and W.A. Jury. 1997. Laboratory-scale measurements and simulations of the effect of application methods on soil methyl bromide emission. J. Environ. Qual. 26:310-317.
  - 122. Gan, J., S.R. Yates, H. Ohr and J. Sims. 1997. Volatilization and distribution of methyl iodide and methyl bromide after subsoil application. J. Environ. Qual. 26:1107-1115.
  - 123. Gan, J., S.R. Yates, H.D. Ohr, and J.J. Sims. 1998. Production of methyl bromide by terrestrial higher plants. Geophys. Res. Lett. 25:3595-3598.
  - 124. Gan, J., S.R. Yates, J.O. Becker, and D. Wang. 1998. Surface amendment of fertilizer ammonium thiosulfate to reduce methyl bromide emission from soil. Environ. Sci. Technol. 32:2438-2441.
  - 125. Gan, J., W.C. Koskinen, R.L. Becker, and D.D. Buhler. 1995. Effect of concentration on persistence of alachlor in soil. J. Environ. Qual. 24:1162-1169.
  - 126. Gan, J.; Becker, JO; Ernst, FF; Hutchinson, C; Knuteson, JA; Yates, SR. 2000. Surface Application of Ammonium Thiosulfate to Reduce 1,3-Dichloropropene Volatilization from Soil. Pesticide Sci. 56:264-270.

127. Gan, J; Hutchinson, C; Ernst, FF; Becker, JO; Yates, SR. 2000. Column System for Concurrent Assessment of Emission Potential and Pest Control of Soil Fumigants. *J. Environ. Qual.* (in press).
128. Gan, J; Papiernik, SK; Koskinen, WC; Yates, SR. 1999. Evaluation of accelerated solvent extraction (ASE) for analysis of pesticide residues in soil. *Environ. Sci. Technol.* 33:3249-3253.
129. Gan, J; Papiernik, SK; Yates, SR; Jury, WA. 1999. Temperature and moisture effects on fumigant degradation in soil. *J. Environ. Qual.* 28:1436-1441.
130. Gangloff, W.J., M. Ghodrati, J.T. Sims, and B.L. Vasilas. 1997. Field study: Influence of fly ash on leachate composition in an excessively drained soil. *J. Environ. Qual.* 26(3):714-723.
131. Gao, F. and S.R. Yates. 1998. Laboratory study of closed and dynamic flux chambers: Experimental results and implications for field application. *J. Geophys. Res.-Atmos.* 103:26115-26125.
132. Gao, F. and S.R. Yates. 1998. Simulation of enclosure-based methods for measuring gas emissions from soil to the atmosphere. *J. Geophys. Res.-Atmos.* 103:26127-26136.
133. Gao, F., and Yates, S.R. 1998. Laboratory study of closed and dynamic fluxchambers: Experimental results and implications for field application *J. Geophys. Res.-Atmos.* 103:26115-26125.
134. Gao, F., S.R. Yates, , M.V. Yates, , J. Gan, and F.F. Ernst. 1997. Design, fabrication and application of a dynamic chamber for measuring gas emissions from soil. *Environ. Sci. Tech.* 31:148-153. 1997.
135. Garrido, F., M. Ghodrati and M. Chendorain. 2000. Small-scale measurement of soil water content using a fiber optic sensor. *Soil Sci. Soc. Am. J.* In press.
136. Garrido, F., M. Ghodrati, and C. Campbell. 2000. An in situ field calibration of fiber optic miniprobes. *Soil Sci. Soc. Am. J.* In press.
137. Garrido, F., M. Ghodrati, M. Chendorain and C. Campbell. 2000. Measurement and characterization of small scale variability in solute transport processes in a homogeneous clay loam soil. *Soil Sci. Soc. Am. J.* In press.
138. Ghodrati, M. 1999. "Point" measurement of solute transport processes in soil using fiber optic sensors. *Soil Sci. Soc. Am. J.* 63:471.
139. Ghodrati, M., F. Garrido, C. Campbel and M. Chendorain. 2000. A multiplexed fiver optic miniprobe system for measuring solute transport in soil. *J. Environ. Qual.* In press.
140. Green, C.T., and K.M. Scow. 1999. Analysis of phospholipid fatty acids to characterize microbial communities in groundwater aquifers. *Hydrology.*
141. Grigg, B.C. M. Bischoff and R.F. Turco. 1997. Co-contaminant effects on degradation of triazine herbicides by a mixed microbial culture. *J. Agric. Food Chem.* 45:995-1000.
142. Grigg, B.C., N. Assaf and R.F. Turco. 1997. Removal of atrazine contamination in soil and liquid systems using bioaugmentation. *Pestic. Sci.* 50:211-220.
143. Hanson, J.R., C.E. Ackerman, and K.M. Scow. 1999. Biodegradation of methyl tert-butyl ether by a bacterial pure culture. *Appl. Environ. Microbiol.* 65:4788-4792.
144. Hanson, J.R., J.L. Macalady, D. Harris, and K.M. Scow. 1999. Linking toluene degradation with specific microbial populations in soil. *Appl. Environ. Microbiol.* 65:5403-5408.
145. Huang, X. and L.S. Lee. 2000. Effect of dissolved organic matter from animal-derived lagoon effluent on the chlorpyrifos sorption by soils. *J. Environmental Quality*, In review (ARP# 15951).
146. Helling, C. S. A scientist's view of Drug War toxins. *The Panama News* 3(8):9. March 29-April 11, 1997. [Invited newspaper article]
147. Helling, C. S. Environmental fate of herbicides in Hawaii, Peru, and Panama. pp. 389-406 In: Environmental Behaviour of Crop Protection Chemicals, Proc. Int. Symp., IAEA-SM-343/7, IAEA, Vienna, Austria. 1997.
148. Helling, C. S. Environmental fate of herbicides in tropical soils. In Research Abstr., Reducing Pesticide Risk: Approaches to Sustainable Pest Management, USDA-ARS Workshop, Dec. 2-4, 1997. p. 12. 1997. [Workshop]
149. Helling, C.S. and M.A. Doherty. 1995. Improved method for the analysis of imazapyr in soil. *Pestic. Sci.* 45:21-26.
150. Heyse E, D.P. Dai, P.S.C. Rao, et al. 1997. Development of a Continuously Stirred Flow Cell for Investigating Sorption Mass Transfer. *Jour Contam Hydrol.* Vol. 25(3-4), pp. 337-355.
151. Hoogeweg C. G., and A.G. Hornsby. 1998. Soil, environmental and agricultural systems, SEAMS Version 1.0 Users Manual. Circular SW112. Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL. 57 pages.
152. Hornsby A.G. et al. 1998. Fifty nine Extension Circulars published on CD (Circulars SW112-1 thru SW 112-59) with software and data disk for 59 counties in Florida.
153. Hornsby, A.G. How contaminants reach groundwater. 1998. SL-143. Florida Cooperative Extension Service.Institute of Food and Agricultural Sciences. University of Florida. Gainesville, FL. 8 pages.
154. Huang, X. 1998. Impact of Animal Derived Lagoon Effluents on the Fate of Chlorpyrifos and metabolites in Soils. Ph.D. Dissertation. Purdue University, West Lafayette, IN.
155. Huitink, G. Walker, J T. Lavy, T L. Downwind deposition of 2,4-dichlorophenoxyacetic acid herbicide (2, 4-D) in invert emulsion. *Transactions of the ASAE.* v 33 n 4 Jul-Aug 1990 p 1051-1056.
156. Hutchinson, S.L., M.K. Banks, and A.P. Schwab. 1999. Phytoremediation of petroleum sludge: impact of inorganic fertilizer. *J. Environ. Qual.*
157. Inderjit, H. H. Cheng, and H. Nashimura. 1999. Plant phenolics and terpenoids: Transformation, degradation, and potential for allelopathic interactions. p. 255-266. In: Inderjit, K. M. M. Dakshini, and C. L. Foy, eds. *Principles and practices in plant ecology: Allelochemical interactions*. CRC Press, Boca Raton FL.
158. Inskeep, W.P., J.M. Wraith, J.P. Wilson, R.D. Snyder, R.E. Macur, and H.M. Gaber. 1996. Input parameter and model resolution effects on solute transport. *J. Environ. Qual.* 25: 453-462.
159. James, A.I, W.D. Graham, K. Hatfield, et al. 1997. Optimal Estimation of Residual Non-Aqueous Phase Liquid Saturations Using Partitioning Tracer Concentration Data. *Water Resour Res.*, Vol. 33(12), pp. 2621-2636.
160. James, A.I, W.D. Graham, K. Hatfield, P.S.C. Rao, and M.D. Annable. 1999. Estimation of spatially variable residual nonaqueous phase liquid (NAPL) saturations in non-stationary flow fields using temoral moments from partitioning tracer tests: Implications for test design. pp. 133-140, In: *Contaminated Site Remediation: Challenges Posed by Urban and Industrial Contaminants*, C.D. Johnston (Ed.), Center for Groundwater Studies, CSIRO, Western Australia.
161. James, A.I., W.D. Graham, K. Hatfield, P.S.C. Rao, and M.D. Annable. 1999. Estimation of Spatially Variable Residual Non-Aqueous Phase Liquid (NAPL) Saturations in Non-Uniform Flow Fields Using Partitioning Tracer

162. James, A.J., W.D. Graham, K. Hatfield, P.S.C. Rao, and M.D. Annable. 1997. Optimal estimation of residual non-aqueous liquid saturation using partitioning tracer concentration data. *Water Resour. Res.* 33(12):2621-2636.
163. Jawitz and P.S.C. Rao. 1997. Field-scale testing of in-situ flushing for single-phase microemulsification of a complex LNAPL. *Environ. Sci. Technol.* Vol. 32(4), pp. 523-530.
164. Jawitz JW, M.D. Annable, P.S.C. Rao, et al. 1998. Field Implementation of a Winsor Type I Surfactant/Alcohol Mixture for In Situ Solubilization of a Complex LNAPL as a Single Phase Microemulsions." *Environ. Sci. Technol.* Vol. 32(4), pp. 523-530.
165. Jawitz JW, M.D. Annable, P.S.C. Rao. 1998. Miscible Fluid Displacement Stability in Unconfined Porous Media: Two-Dimensional Flow Experiments and Simulations, *Jour. Contam. Hydrol.*, Vol. 31(3-4), pp. 211-230.
166. Jawitz, J.W. Sillan, R.K. Annable, M.D. Rao, P.S.C. Methods for determining NAPL source zone remediation efficiency of in-situ flushing technologies In Situ Remediation of the Geoenvironment Geotechnical Special Publication. n71 1997. ASCE, New York, NY, USA. p 271-283.
167. Jawitz, J.W., M.D. Annable, and P.S.C. Rao. 2000. Characterizing incomplete breakthrough curves using truncated lognormal distribution moment expressions. Submitted to *Water Resources Research*.
168. Jawitz, J.W., M.D. Annable, R.K. Sillan, and P.S.C. Rao. 1999. In situ flushing for remediation of aquifer contaminant source zones: Evaluating performance using a control plane approach. In: C.D. Johnston (Editor), *Proceedings of Contaminated Site Remediation Conference: Challenges Posed by Urban & Industrial Contaminants*. Centre for Groundwater Studies, CSIRO Land and Water, Fremantle, Western Australia, March 21-25, pp. 455-462.
169. Jawitz, J.W., M.D. Annable, R.K. Sillan, and P.S.C. Rao. 1999. In situ flushing for remediation of aquifer contaminant source zones: Evaluating performance using control-plane approach, pp. 455-462, In: *Contaminated Site Remediation: Challenges Posed by Urban and Industrial Contaminants*", C.D. Johnston (Ed.), Center for Groundwater Studies, CSIRO, Western Australia.
170. Jawitz, James W. Annable, Michael D. Rao, P.S.C. Rhue, R. Dean. Field implementation of a Winsor Type I surfactant/alcohol mixture for in situ solubilization of a complex LNAPL as a single-phase microemulsion *Environmental Science & Technology*. v 32 n 4 Feb 15 1998. p 523-530.
171. Jawitz, J.W., R.K. Sillan, M.D. Annable, P.S.C. Rao, and K. Warner. 2000. In situ alcohol flushing of a DNAPL source zone at a dry cleaner site. Submitted to *Environmental Science & Technology*.
172. Johnson, C.R., and K.M. Scow. 1999. Effect of nitrogen and phosphorus addition on phenanthrene biodegradation in four soils. *Biodegradation* 10:43-50.
173. Johnson, W.G. Lavy, T.L. Gbur, E.E. Persistence of triclopyr and 2,4-D in flooded and nonflooded soils. *Journal of Environmental Quality*. v 24 n 3 May-Jun 1995. p 493-497.
174. Johnson, W.G. Lavy, T.L. In-situ dissipation of benomyl, carbofuran, thiobencarb, and triclopyr at three soil depths. *Journal of Environmental Quality*. v 23 n 3 May-Jun 1994. p 556-562.
175. Johnson, W.G. Lavy, T.L. Persistence of carbofuran and molinate in flooded rice culture. *Journal of Environmental Quality*. v 24 n 3 May-Jun 1995. p 487-493.
176. Johnson, W.G. Lavy, T.L. Senseman, S.A. Stability of selected pesticides on solid-phase extraction disks. *Journal of Environmental Quality*. v 23 n 5 Sept-Oct 1994. p 1027-1031.
177. Johnson, W.G. and T.L. Lavy. 1995. Persistence of carbofuran and molinate in flooded rice culture. *J. Environ. Qual.* 24:487-492.
178. Johnson, W.G., T.L. Lavy, and E.E. Gbur. 1995. Sorption, mobility, and degradation of triclopyr and 2,4-D on four soils. *Weed. Sci.* 43:678-684.
179. Ju, S.-H., K.-J. S. Kung, and C. S. Helling. Simulating impact of funnel flow on contaminant sampling. *Soil Sci. Soc. Am. J.* 61:427-435. 1997.
180. Jury, W.A., Y. Jin, J. Gan and T. Gimmi. Strategies for reducing fumigant loss to the atmosphere, In J.N. Seiber et al. (eds). *Fumigants: Environmental Fate, Exposure and Analysis*. ACS Symposium Series 652, ACS, Washington, DC., pp. 104-115, 1997.
181. Kaplan, D.I., I.V. Kutnyakov, A.P. Gamerdinger, R.J. Serne, and K.E. Parker. 2000. Gravel-corrected Kd values. *Ground Water*, in press.
182. Kaplan, D.I., I.V. Kutnyakov, A.P. Gamerdinger, R.J. Serne, and K.E. Parker. 2000. Gravel-corrected Kd values. *Ground Water*, in press.
183. Kearney, P. C., D. R. Shelton, and W. C. Koskinen. 1997. Pesticides in soil and water. *Kirk-Othmer Encyclopedia of Chemical Technology*, 4th edition, Vol.22. John Wiley and Sons. New York. pp. 415-451.
184. Khakural, B.R., P.C. Robert, D.J. Mulla, G.A. Johnson, R. Oliveira, and W.C. Koskinen. 1998. Site-specific herbicide management for preserving water quality. *Agron. Abstr.* p. 339.
185. Khakural, B.R., P.C. Robert, W.C. Koskinen, D.A. Sorenson, D.D. Buhler, D.L. Wyse. 1995. Test of the LEACHP model for predicting atrazine movement in three Minnesota soils. *J. Environ. Qual.* 24:644-655.
186. Kim H, M.D. Annable, P.S.C. Rao. 1998. Influence of Air-Water Interfacial Adsorption and Gas-Phase Partitioning on the Transport of Organic Chemicals in Unsaturated Porous Media. *Environ. Sci. Technol.* Vol. 32(9), pp. 1253-1259.
187. Kim H, P.S.C. Rao, M.D. Annable. 1997. Determination of Effective Air-Water Interfacial Area in Partially Saturated Porous Media Using Surfactant Adsorption. *Water Resour. Res.*, Vol. 33(12), pp. 2705-2711.
188. Kim, H., M.D. Annable, and P.S.C. Rao. 1997. Influence of air-water interfacial adsorption and gaseous partitioning on the transport of organic chemicals in unsaturated porous media,
189. Kim, H., P.S.C. Rao, and M.D. Annable. 1998. Experimental Evaluation of the Validity of Interfacial Tracers. *Jour. Contam. Hydrol.* (In Press)
190. Kim, H., P.S.C. Rao, and M.D. Annable. 1999. Gaseous tracer technique for estimating air-water interfacial areas and interface mobility. *Soil Sci Soc Amer Jour.*, Vol. 63, pp. 1554-1560.
191. Kim, H., P.S.C. Rao, and M.D. Annable. 1997. Determination of effective air-water interfacial area in partially saturated media using surfactant adsorption. *Water Resour. Res.* 33:2705-2711.
192. Kim, H., P.S.C. Rao, and M.D. Annable. 1998. Gaseous Tracer Application for the Estimation of Air-Water Interfacial Areas, Mobility and Water Contents in Partially Saturated Porous Media. *Soil Sci. Soc. Amer. Jour.* (In Press).
193. Kladivko, E.J., J. Grochulska, R.F. Turco, G.E. VanScyoc, and J.D. Eigel. 1999. Pesticide and nitrate transport

into subsurface tile drains of different spacing. *J. Environ. Qual.* 28:997-1004.

194. Knox, A.S., A.P. Gamerdinger, R.K. Kolka, D.C. Adriano, and D.I. Kaplan. 1999. Sources and Practices contributing to Soil Contamination. In *Bioremediation of Contaminated Soils*, Agronomy Monograph no. 37, ASA, CSA and SSSA, Madison, WI, pp. 53-87.
195. Konopka A., T. Zakhrova, M. Bischoff, L. Oliver, C.H. Nakatsu and R.F Turco. 1999. Microbial biomass and activity in lead contaminated soil. *Applied and Environmental Microbiology.* 65:2256-2259
196. Konopka A., Zakhrova T., Oliver L., Paseuth E., Turco, R.F. 1998. Physiological state of a microbial community in a biomass recycle reactor. *Journal of Industrial Microbiology & Biotechnology.* 20:232-237.
197. Konopka, A, L Oliver and R.F. Turco. 1998. The use of carbon substrate utilization patterns in environmental and ecological microbiology. *Microbial Ecology* 35:103-115.
198. Konopka, A., T. Zakhrova, L. Oliver, and R.F. Turco. 1997. Microbial biodegradation of organic wastes containing surfactants in a continuous-flow reactor. *J. Industr. Microbiol. Biotechnol.* 18:235-240.
199. Koskinen, W. C., A. M. Cecchi, R. H. Dowdy, and K. A. Norberg. 1999. Adsorption of selected pesticides on a rigid PVC lysimeter. *J. Environ. Qual.* 28:732-734.
200. Koskinen, W. C., and B. L. Barber. 1997. A novel approach using solid phase extraction disks for extraction of pesticides from water. *J. Environ. Qual.* 26:558-560.
201. Koskinen, W. C., and S. A. Clay. 1997. Factors affecting atrazine fate in North Central U.S. Soils. *Rev. Environ. Contam. Toxicol.* 151:117-165.
202. Koskinen, W.C., B. A. Sorenson, D.D. Buhler, D.L. Wyse, E.A. Strand, W.E. Lueschen, M.D. Jorgenson, and H.H. Cheng. 1998. Use of field lysimeters to determine <sup>14</sup>C-dicamba persistence and movement in soil. p. 115-121. In F. Fuhr, R. J. Hance, J. R. Plimmer, and J. O Nelson (eds.) *The Lysimeter Concept: Environmental Behavior of Pesticides*. ACS Symp. Ser. 699. Amer. Chem. Soc., Washington, DC.
203. Koskinen, W.C., H.H. Cheng, L.J. Jarvis, and B.A. Sorenson. 1995. Characterization of mechanisms of pesticide retention in soils using the supercritical fluid extraction technique. *Internat. J. Environ. Anal. Chem.* 58:379-385.
204. Koskinen, W.C., P.Y. Yen, and E.E. Schweizer. 1995. Evaluation of herbicide leachability screening models. p. 113-116. In Proc. Clean Water-Clean Environment 21st Century. Vol. 1, Pesticides. Mar. 5-8, 1995, Kansas City, MO.
205. Langner, H.W., H.M. Gaber, J.M. Wraith, B. Huwe, and W.P. Inskeep. 1999. Preferential flow through intact soil cores: Effects of matric head. *Soil Sci. Soc. Am. J.* 63: 1591-1598.
206. Langner, H.W., H.M. Gaber, J.M. Wraith, W.P. Inskeep and B. Huwe. 1998. Apparatus for constant-head solute transport and soil water characteristic determination. *Soil Sci. Soc. Am. J.* 62: 110-113.
207. Langner, H.W., W.P. Inskeep, H.M. Gaber, W.L. Jones, B.S. Das, and J.M. Wraith. 1998. Pore water velocity and residence time effects on the degradation of 2,4-D during transport. *Environ. Sci. Tech.* 32: 1308-1315.
208. Laor, Y., W. J. Farmer and P. F. Strom. 1999. Bioavailability of phenanthrene bound/sorbed to dissolved and to mineral-associated humic acid. *Water Res.* 33: (7) 1719-1729.
209. Laor, Y., W. J. Farmer, Y. Aochi and P. F. Strom. 1998. Phenanthrene binding and sorption to dissolved and to mineral-associated humic acid. *Water Res.* 32: 1923-1931.
210. Lau, S.S., M.E. Fuller, H. Ferris, R.C. Venette, and K.M. Scow. 1997. Development and testing of an assay for soil-ecosystem health using the bacterial-feeding nematode *Cruznema tripartitum*. *Ecotox. Environ. Safety* 36:133-139.
211. Levy, T.L. Mattice, J.D. Massey, J.H. Skulman, B.W. Senseman, S.A. Gbur, E.E. Jr. Barrett, M.R. Long-term in situ leaching and degradation of six herbicides aged in subsoils. *Journal of Environmental Quality.* v 25 n 6 Nov-Dec 1996. p 1268-1279.
212. Lee, L.S. 1998. Estimating release of polycyclic aromatic hydrocarbons from coal tar contaminated soil at manufactured-gas plant sites. EPRI Report, TR-110516.
213. Lee, L.S. 1999. Estimating aqueous release concentrations of multi-ring aromatic hydrocarbons from MGP soils. EPRI Report, TR-110516 Vol. 2.
214. Lee, L.S., A. K. Nyman, H. Li, M.C. Nyman, and C. Jafvert. 1997. Initial sorption of aromatic amines by surface soils. *Environ. Toxicol. Chem.* 16:1575-1582.
215. Lee, L.S., N.D. Priddy, and D.C.M. Augustijn. 1998. Estimating mass-transfer of polycyclic aromatic hydrocarbons from coal-tar contaminated soil. IN: *Soil and Aquifer Pollution: Non-Aqueous Phase Liquids - Contamination and Reclamation*, H. Rubin and J. Carberry (eds.) Springer-Verlag, Berlin, Germany, Chapter 6, p. 91-108
216. LeNoir, J.S., L.L. McConnell, G.M. Fellers, T.M. Cahill, and J.N. Seiber. 1999. Summertime transport of current use pesticides from California's Central Valley to the Sierra Nevada mountain range. *Env. Toxicol. Chem.*
217. Li, H. and L.S. Lee. 1998. Long term sorption and reaction of selected aromatic amines by surface soils. American Geophysical Union, Special session "Sorption of organic pollutants to soil, sediment, and other geologic solids. Boston, MA. (May 26-29, 1998), p. S97.
218. Li, H. and L.S. Lee. 1999. Sorption and abiotic transformation of aniline and -naphthylamine by surface soils. *Environmental Science & Technology,* 33:1864-70.
219. Li, H. L.S. Lee, C.T. Jafvert, and J.J. Graveel. 2000. Effect of Substitution on Irreversible Binding and Transformation of Aromatic Amines with Soils in Aqueous Systems, *Environmental Science & Technology*. Accepted.
220. Li, Y. and M. Ghodrati. 1997. Preferential transport of solute through soil columns containing constructed macropores. *Soil Sci. Soc. Am. J.* 61:1308-1317.
221. Liu, R., C.E. Clapp and H.H. Cheng. 1997. Usefulness of the carbon-13 tracer technique for characterizing terrestrial carbon pools. *Nutr. Cycl. Agroecosyst.* 49:261-266.
222. Liu, Z., S.A. Clay, D.E. Clay, and S.S. Harper. 1995. Ammonia fertilizer influences atrazine adsorption-desorption characteristics. *J. Agric. Food Chem.* 43:815-819.
223. Macalady, J., and K.M. Scow. 1998. Effects of fumigation with metam sodium on soil microbial activity and community structure. *J. Environ. Qual.* 27:54-63.
224. MacDonald, J.A., and P.S.C. Rao. 1997. Shift Needed to Improve Market for Innovative Technologies. *Soil and Groundwater Cleanup*, August/Sept. 1997, pp. 19-25.
225. Macur, R.E. and W.P. Inskeep. 1999. Effects of a nonionic surfactant on biodegradation of phenanthrene and hexadecane in soil. *Environ. Toxicic. and Chem.* 18:1927-1931.
226. Majasovic, M. and C.S. Helling. 1995. Use of multiresidue gas chromatographic analysis to determine pesticide

mobility on soil TLC plates. *J. Environ. Sci. Health.*, B30:163-173.

227. Majasevic, M., C.S. Helling, and M.A. Doherty. 1995. Multiresidue pesticide methods for environmental samples: development and data interpretation. Proc., I Regional Symp. Chem. Environ., Vrnjacka Banja, Yugoslavia, September 1995. p. 79-82.
228. Marek, L. J., and W. C. Koskinen. 1997. LC-MS analysis of polar pesticides in soil. *Am. Environ. Lab.* 9:26-28.
229. Martin-Neto, L., R. Rosell, and G. Sposito. 1998. Correlation of spectroscopic indicators of humification with mean annual rainfall along a temperate grassland climosequence. *Geoderma* 81:305-311.
230. Massey, Joseph H. and Terry L. Lavy. 1997. Degradation and disposal of Scepter herbicide by hydrogen peroxide-catalyzed ozonation. *J. Agric. Food Chem.* 45: 3315-3319.
231. Mattice, J.D., Seong Kyu Park and Terry L. Lavy. 1997 Potential of passive emcore C18 disk extraction for analyses of water samples containing fine particulates. *Bull. Environ. Contam. Toxicol.*
232. McConnell, L.L., J.S. LeNoir, S.K. Datta and J.N. Seiber. 1998. Wet Deposition of Current-Use Pesticides in the Sierra Nevada Mountain Range, California, USA. *Environmental Toxicology and Chemistry* 17(10), pp. 1908-1916.
233. Molina, J.A.E., and H.H. Cheng. 1998. C sequestration, soil sustainability, and the dynamics of C-N interactions. ASA-CSSA-SSSA Annual Mtg., Baltimore, Abstr. 1998:227.
234. Mulroy, P.T., Ou, L-T, "Degradation of Tetraethyllead During the Degradation of Leaded Gasoline Hydrocarbons in Soil," *Environmental Toxicology and Chemistry*, Vol. 17, No. 5, pp. 777-782, 1998
235. National Research Council Committee's Innovations in Ground Water and Soil Cleanup: From Concept to Commercialization. 1997. National Academy Press, Washington, DC, 292 p., (S. Rao, contributor).
236. Nedunuri, K., R.S. Govindaraju, M.K. Banks, A.P. Schwab, and Z. Chen. 1999. Effect of spatial variability in evaluating field scale total petroleum hydrocarbon degradation using phytoremediation. *J. Environ. Eng.*
237. Nelson, S.D., J. Letey, W.J. Farmer, C.F. Williams, and M. Ben-Hur. 1998. Facilitated transport of napropamide by dissolved organic matter in sewage sludge amended soil. *J. Environ. Qual.* 27: 1194-1200.
238. Nyman, M.C., A. Nyman, L.S. Lee, L. Nies and E. Blatchley. 1997. Fate of 3,3'-dichloro-benzidine in lake systems. *Environ. Sci. Technol.* 31:1068-1073.
239. Oliveira, R. S., Jr., W. C. Koskinen, F. A. Ferreira, B. R. Khakural, D. J. Mulla, P. C. Robert. 1999. Spatial variability of imazethapyr sorption in soil. *Weed Sci.* 47:243-248.
240. Ou, L.-T. 1997. Accelerated degradation of methyl bromide in methane-, 2,4-D-, and phenol-treated soils. *Bull. Environ. Contam. Toxicol.* 59:736-743.
241. Ou, L.-T. 2000. Pesticide biodegradation. In J. Lederberg (ed.), *Encyclopedia of Microbiology*, Academic Press, San Diego, CA.
242. Ou, L-T, "Enhanced Degradation of the Volatile Fumigant-Nematicides 1,3-D and Methyl Bromide in Soil," *Journal of Nematology*, Vol. 30, No. 1, pp. 56-64, 1998.
243. Pang, X.P., S.C. Gupta, J. F. Moncrief, C. J. Rosen, and H.H. Cheng. 1998. Evaluation of nitrate leaching potential in Minnesota glacial outwash soils using the CERES-Maize model. *J. Environ. Qual.* 27:75-85.
244. Papiernik, S.K. and R.F. Spalding. 1998. Atrazine, deethylatrazine, and deisopropylatrazine persistence measured in groundwater in situ under low-oxygen conditions. *J. Agric. Food Chem.* 46:749-754.
245. Papiernik, SK; Gan, JY; Knuteson, JA; Yates, SR. 1999. Sorption of fumigants to agricultural films. *Environ. Sci. Technol.* 33:1213-1217.
246. Pearson, R.J., W. P. Inskeep, J.M. Wraith, H.M. Gaber and S.D. Comfort. 1996. Observed and simulated solute transport under varying water regimes: II. 2,6-Difluorobenzoic acid and dicamba. *J. Environ. Qual.* 25: 654-661.
247. Pearson, R.J., W. P. Inskeep, J.M. Wraith, S.D. Comfort and H.M. Gaber. 1996. Observed and simulated solute transport under varying water regimes: I. Bromide and pentafluorobenzoic acid. *J. Environ. Qual.* 25: 646-653.
248. Piatt, J.J., and M.L. Brusseau. 1998. Rate-limited sorption of hydrophobic organic compounds by soils with well-characterized organic matter. *Environ. Sci. Technol.* 32:1604-1608.
249. Pignatello, J.J. 1998. Soil organic matter as a nanoporous sorbent of organic pollutants. *Adv. Colloid Interface. Sci.* 7677:445-467.
250. Pignatello, J.J. 1999. A revised physical concept of natural organic matter as a sorbent of organic compounds. In: *Kinetics and Mechanisms of Reactions at the Mineral/Water Interface*. D.L. Sparks and T.J. Grundl, Eds. American Chemical Society, Washington, D.C.
251. Pignatello, J.J. 2000. The measurement and interpretation of sorption and desorption rates for organic compounds in soil media. IN: *Advances in Agronomy*, Vol. 69, Academic Press, San Diego, CA.
252. Pignatello, J.J., and B. Xing. 1996. Mechanisms of slow sorption of organic chemicals to natural particles. *Environ. Sci. Technol.* 30:1-11.
253. Puchalski, M. G. Elsner, G. Horwath, M. Loughran, and W. C. Koskinen. 1999. Pesticide-contaminated soil sample stability during frozen storage. *J. Environ. Qual.* 28:726-729.
254. Rao et al., 1997. Remediation of contaminated aquifers: Field scale testing in-situ cosolvent flushing. *Water Resour. Res.* 33:2673-2686.
255. Rao, P.S.C. Annable, M D. Kim, H. Saripalli, K P. Tracer techniques for site characterization and remediation technology performance assessment: Recent developments and applications Iahs Publication (International Association of Hydrological Sciences). n 250 1998. p 353-359.
256. Rao, P.S.C. 1999. Commercialization of Innovative Remediation technologies: Barriers and Challenges. Pp. 1-20, In: *Contaminated Site Remediation: Challenges Posed by Urban and Industrial Contaminants*", C.D. Johnston (Ed.) Center for Groundwater Studies, CSIRO, Western Australia.
257. Rao, P.S.C., M.D. Annable, and H. Kim. 2000. NAPL source zone characterization and remediation technology performance assessment: Recent developments and applications of tracer techniques. *Jour. Contam. Hydrol.*, In press.
258. Rao, P.S.C., M.D. Annable, H. Kim, and K.P. Saripalli. 1998. Tracer Techniques for Site Characterization and Remediation Performance Assessment: Recent Developments and Applications. In: *Groundwater Quality: Remediation and Protection*", IAHS, Germany. (In Press).
259. Rao, P.S.C., M.D. Annable, R.K. Sillan, D.P. Dai, K. Hatfield, W.D. Graham, A.L. Wood, and C.G. Enfield. 1997. Field-Scale Evaluation of In-Situ Cosolvent Flushing for Remediation of a Shallow, Unconfined Aquifer Contaminated with Residual LNAPL. *Water Resour. Res.*, Vol. 33(12), 1997, pp. 2673-2686.
260. Regitano, J.B., M. Bischoff, L.S. Lee, J.M. Reichert and R.F. Turco. 1997. Retention of imazaquin in soil.

261. Rhue, R.D., P.S.C. Rao, and M.D. Annable. 1998. Single-Phase Microemulsification of a Complex LNAPL: Laboratory Evaluation of Several Mixtures of Surfactant/Alcohol Solutions." Journal of Environmental Quality, Vol. 28, No. 4, 1999, pp. 1135-1144.
262. Rillig, M.C., K.M. Scow, J.N. Klironomos, and M.F. Allen. 1997. Microbial carbon-substrate utilization in the rhizosphere of Gutierrezia sarothrae grown in elevated atmospheric carbon dioxide. *Soil Biol. Biochem.* 29:1387-1394.
263. Rochette, E.A. and W.C. Koskinen. 1995. Determination of herbicide-soil sorption coefficients using supercritical carbon dioxide. p. 149-152. In Proc. Clean Water-Clean Environment 21st Century. Vol. 1, Pesticides. Mar. 5-8, 1995, Kansas City, MO.
264. Rochette, E.A. and W.C. Koskinen. 1995. Determination of herbicide-soil sorption coefficients using supercritical carbon dioxide. p. 149-152. In Proc. Clean Water-Clean Environment 21st Century. Vol. 1, Pesticides. Mar. 5-8, 1995, Kansas City, MO.
265. Rochette, E.A., and W.C. Koskinen. 1998. Atrazine sorption in field-moist soils - supercritical fluid carbon dioxide density effects. *Chemosphere* 35:1825-1839.
266. S.D. Nelson, J. Letey, W.J. Farmer, and C.F. Williams. 1998. Transport of Napropamide with Dissolved Organic Matter in Soil Columns. . p. 354. In Agronomy Abstracts. ASA, Madison, WI.
267. Sadowsky, M. J. and Turco, R.F. 1999. Bioaugmentation Systems. In Bioremediation. W. Frankenberger et al., (eds). New SSSA Monograph Bioremediation of Contaminated Soils. Madison, WI.
268. Saripalli KP, H. Kim, P.S.C. Rao, M.D. Annable. 1997. Measurement of Specific Fluid - Fluid Interfacial Areas of Immiscible Fluids in Porous Media, *Environ Sci Technol.*, Vol. 31(3), pp. 932-936.
269. Saripalli KP, M.D. Annable, P.S.C. Rao. 1997. Estimation of Nonaqueous Phase Liquid-Water Interfacial Areas in Porous Media Following Mobilization by Chemical Flooding. *Environ Sci Technol.*, Vol. 31(12), pp. 3384-3388.
270. Saripalli, K Prasad. Annable, M D. Rao, P S C. Estimation of nonaqueous phase liquid-water interfacial areas in porous media following mobilization by chemical flooding *Environmental Science & Technology*. 31:3384-3388.
271. Saripalli, K.P., H.K. Kim, P.S.C. Rao, and M.D. Annable. 1997. Determination of specific fluid-fluid interfacial areas in porous media. *Environ. Sci. Technol.* 31:932-936 .
272. Saripalli, KP, P.S.C. Rao, M.D. Annable. 1998. Determination of Specific NAPL-Water Interfacial Areas of Residual Naps in Porous Media Using the Interfacial Tracers Technique, *Jour. Contam. Hydrol.*, Vol. 30(3-4), pp. 375-391.
273. Saripalli, M.D. Annable, and P.S.C. Rao. 1997. Estimation of non-aqueous phase liquid (NAPL)-water interfacial areas in porous media during chemical flooding. *Environ. Sci. Technol.* 31:3384-3388.
274. Schroth, B., and G. Sposito. 1997. Surface charge properties of kaolinite. *Clays Clay Miner.* 45:85-91.
275. Schroth, B.K., and G. Sposito. 1998. Effect of landfill leachate organic acids on trace metal adsorption by kaolinite. *Environ. Sci. Technol.* 32:1404-1408.
276. Schwab, A.P. 1999. Soil Solution In M. Sumner (Ed.) *Handbook of Soil Science*, CRC, Boca Raton, FL
277. Schwab, A.P. and M.K. Banks. 1999. Phytoremediation of petroleum contaminated soils: A field study. In *Bioremediation of Contaminated Soils*. p. 783-795. Agronomy Monograph 37. ASA, CSSA, and SSSA, Madison, WI.
278. Schwab, A.P., A.A. Al-assi, M.K. Banks. 1998. Adsorption of naphthalene to plant roots. *J. Environ. Qual.* 27:169-174.
279. Schwab, A.P., J. Su, S. Wetzel, S. Pekarek, and M.K. Banks. 1999. Extraction of petroleum hydrocarbons from soil by mechanical shaking. *Environ. Sci. Tech.* 33:1940-1945.
280. Schwab, A.P., M.K. Banks, and M. Arunuchalam. 1995. Influence of rhizosphere on the biodegradation of phenanthrene and pyrene. In R.E. Hinchee and R.F. Olfenbuttel (eds). On-site bioreclamation. Butterworth and Heinemann. 3(7):23-31.
281. Schwartz, E., and K.M. Scow. 1998. Using biodegradation kinetics to measure the availability of aged phenanthrene to bacteria inoculated into soil. *Environ. Toxic. Chem.* (in press).
282. Schwartz, E., and K.M. Scow. 1999. Using biodegradation kinetics to measure the availability of aged phenanthrene to bacteria inoculated into soil. *Environ. Toxic. Chem.* 18: 1742-1746.
283. Scow, K.M. 1997. Soil microbial communities and carbon flow in agroecosystems, p. 361-407. In: *Ecology in Agriculture*, Jackson, L.E. (ed.), Academic Press, New York.
284. Seiber, J.N. and J.E. Woodrow. 1998. Air transport of pesticides. In: *Pesticides and the Future: Minimizing Chronic Exposure of Humans and the Environment*, R.J. Kuhr and N. Motoyama (Eds), IOS Press, Burke, VA, pp. 287-294.
285. Seiber, J.N., J.E. Woodrow and M.D. David. 1998. Organophosphorous esters. In: *Chromatographic Analysis of Environmental and Food Toxicants*, T. Shibamoto (Ed), Marcel Dekker, New York, pp 229-257.
286. Senseman, S.A., T.L. Lavy and T.C. Daniel. 1997. Groundwater monitoring for pesticides at selected mixing/loading sites in Arkansas. *Environ. Sci. Technol.* 31: 283-288.
287. Senseman, S.A., T.L. Lavy, and J.D. Mattice. 1995. Dessication effects on stability of pesticides stored on solid-phase extraction disks. *Anal. Chem.* 67:3064-3068.
288. Senseman, S.A., T.L. Lavy, J.D. Mattice, and E.E. Gbur. 1995. Influence of dissolved humic acid and Ca-montmorillonite clay on pesticide extraction efficiency from water using solid-phase extraction disks. *Environ. Sci. Technol.* 29:2647-2653.
289. Senseman, S.A., T.L. Lavy, J.D. Mattice, W.E. Gbur and B.W. Skulman. 1997. Trace level pesticide detections in surface water at selected sites in Arkansas. *Environ. Sci. Technol.* 31:395-401.
290. Seol, Y. 1998. An Inquiry into the Phenomenon of Enhanced Transport of Triazines with Treated Effluents. Ph.D. Dissertation. Purdue University, West Lafayette, IN.
291. Seol, Y. and L.S. Lee. 2000. Effect of Dissolved Organic Matter from Treated Effluents of Sorption of Atrazine and Prometryn by Soils, *Soil Science Society of America Journal*, Accepted.
292. Shelton, D. R., and M. A. Doherty. 1997. A model describing pesticide bioavailability and biodegradation in soil. *Soil Sci. Soc. Am. J.* 61:1078-1084.
293. Shelton, D. R., and M. A. Doherty. 1997. Estimating losses of efficacy due to pesticide biodegradation in soil: Model simulations. *Soil Sci. Soc. Am. J.* 61:1085-1090.
294. Shinde, D., Arthur G. Hornsby, Robert S. Mansell, and Mohammad R. Savabi. 2000. A Simulation Model for

Fate and Transport of Methyl Bromide in Vegetable Plastic-Mulched Beds. Pesticide Science, in Press.

295. Sigler, W.V. C.P. Taylor, C. Throssell, M. Bischoff and R. Turco. 1999. Environmental Fates of Fungicides in the Turfgrass Environment: A mini-review. ACS symposium book on the Turfgrass Environment. In Press.
296. Sillan, R.K., M.D. Annable, P.S.C. Rao, D. Dai, K. Hatfield, W.D. Graham, A.L. Wood, and C.G. Enfield. 1998. Evaluation of In Situ Cosolvent Flushing Dynamics Using a Network of Spatially Distributed Multi-Level Samplers." Water Resour Res., Vol. 34 (In Press).
297. Skipper H.D. and R.F. Turco. 1995. (EDITORS) Bioremediation, Science and Applications. Soil Science Society of America Special Publication 43. (319 pages)
298. Skipper, H., A. Wollum, D. Wolf, and R. Turco. 1996. Microbial processes in soil and
299. Skipper, H.D., A.G. Wollum, R.F. Turco and D. Wolf. 1997. Microbial aspects of environmental fate studies of pesticides. Weed Technol. 10:174-190.
300. Song, X.H., P.K. Hopke, M. Bruns, D.A. Bossio, and K.M. Scow. 1998. A fuzzy adaptive resonance theory-supervised predictive mapping neural network applied to the classification of multivariate data. Chemomet. Intell. Lab. Syst. 41:161-170
301. Sonon, L.S., and A.P. Schwab. 1995. Adsorption characteristics of atrazine and alachlor in Kansas soils. Weed Sci. 43:461-466.
302. Sorenson, B.A., W.C. Koskinen, D.D. Buhler, D.L. Wyse, W.E. Lueschen, and M.D. Jorgenson. 1995. Fate of 14C- atrazine in a silt loam soil. Internat. J Environ. Anal. Chem. 61:1-10.
303. Sposito, G. 1997. Ergocidity and the "scale effect". Advan. Water Resour. 20:309-316.
304. Sposito, G. 1999. The statistical physics of subsurface solute transport. In M.B. Parlange and J.W. Hopmans (eds.), Vadose Zone Hydrology: Cutting Across Disciplines, Chap. 3. Oxford University Press, New York.
305. Sposito, G., and S.W. Weeks. 1998. Tracer advection by steady groundwater flow in a stratified aquifer. Water Resour. Res. 34:1051-1059.
306. Streck, T., N.N. Ploetrika, W.A. Jury, and W.J. Farmer. 1995. Description of simazine transport with rate-limited, two-stage, linear and nonlinear sorption. Water Resour. Res. 31:811-822.
307. Sun, S., W.P. Inskeep, and S.A. Boyd. 1995. Sorption of nonionic organic compounds in soil-water systems containing a micelle-forming surfactant. Environ. Sci. Technol. 29:903-913.
308. Toppozada, A. R., J. Wright, A. T. Eldefrawi, M. E. Eldefrawi, E. L. Johnson, S. D. Emche, and C. S. Helling. Evaluation of a fiber optic immunosensor for quantitating cocaine in coca leaf extracts. Biosensors Bioelectron. 12:113-124. 1997.
309. Trabue, S.L., X. Feng, A.V. Ogram, and L.-T. Ou. 1997. Carbofuran degradation in soil profiles. J. Environ. Sci. Health B32:861-878.
310. Turco, R.F. 1996. Soil Microorganism and Their Requirements. Submitted to: Bioremediation. W. Frankenberger et al. (ed). New SSSA monograph, Bioremediationof Contaminated Soils.
311. Turco, R.F. 1999. Soil Microorganism and Their Requirements. In Bioremediation. W. Frankenberger et al., (eds). New SSSA Monograph Bioremediation of Contaminated Soils. Madison, WI.
312. Turco, R.F. and M.J. Sadowsky. 1995. The Microflora of bioremediation. In: H.D. Skipper and R.F. Turco (ed). p.87-103. Soil Science Society of America Special Publication 43.
313. Uz, I., Y.P. Duan, and A. Ogram. 1999. Characterization of the novel naphthalene-metabolizing bacterium, Rhodococcus opacus M213. Accepted, FEMS Microbiology Letters.
314. van den Berg, F; Kubiak, R; Benjey, W; Majewski, M; Yates, SR; Reeves, G; Smelt, J; van der Linden, A. 2000. Emission of pesticides into the air. Water, Air and Soil Pollution (in press).
315. Veech, R.H., W.P. Inskeep and A. Camper. 1996. Soil depth and temperature effects on degradation rates of 2,4-D. J. Environ. Qual. 25: 5-12.
316. Wang, D. and S.R. Yates. 1998. Methyl bromide emission from fields partially covered with a high-density polyethylene and a virtually impermeable film. Environ. Sci. Technol. 32:2515-2518.
317. Wang, D., J.Y. Shen, M.A. Cheney, G. Sposito, and T. Spiro. 1999. Manganese dioxide as a catalyst for oxygen-independent atrazine dealkylation. Environ. Sci. Technol. 33:3160.
318. Wang, D., S.R. Yates, and F.F. Ernst. 1997. Dynamic flow-through chambers for field determination of methyl bromide volatilization flux. Atmos. Environ. 31:4119-4123.
319. Wang, D., S.R. Yates, and F.F. Ernst. 1998. Determining soil hydraulic properties using tension infiltrometers, time domain reflectrometry, and tensiometers. Soil Sci. Soc. Am. J. 62:318-325.
320. Wang, D., S.R. Yates, and J. Gan. 1997. Temperature effect on fate and transport of methyl bromide in soil fumigation. J. Environ. Qual. 26:1072-1079.
321. Wang, D., S.R. Yates, B. Lowery, and M.T. van Genuchten. 1998. Estimating soil hydraulic properties using tension infiltrometers with varying disk diameters. Soil Sci. 163:356-361.
322. Wang, D., S.R. Yates, F.F. Ernst, J. Gan, and W.A. Jury. 1997. Reducing methyl bromide emission with a high barrier plastic film and reduced dosage. Environ. Sci. Tech. 31:3686- 3691.
323. Wang, D., S.R. Yates, F.F. Ernst, J. Gan, F. Gao, and J.O. Becker. 1997. Methyl bromide emission reduction with field management practices. Environ. Sci. Technol. 31:3017- 3022.
324. Wang, D., S.R. Yates, J. Gan, and W.A. Jury. 1998. Temperature effect on methyl bromide volatilization: Permeability of plastic cover films. J. Environ. Qual. 27:821-827.
325. Wang, D., S.R. Yates, J. Simunek, and M. Th. van Genuchten. 1997. Solute transport in simulated conductivity fields under different irrigations. Journal of Irrigation and Drainage Engineering. 123:336-343.
326. Wang, D., W.E. Dubbin, J.Y. Shin, M. Zavarin, M.A. Cheney, T.G. Spiro, and G. Sposito. 1999. Spectroscopic probes of degradation reactions promoted by metal oxide surfaces. Ninth Goldschmidt Conference, Cambridge, MA, August 22-27, 1999. (CD-ROM)
327. Wang, D; Ernst, FF; Yates, SR. 1999. Automated sequential sampler for collection of highly volatile atmospheric contaminants. J. Environ. Qual. 28:345-349.
328. Wang, D; Knuteson, J; Yates, SR. 2000. Two-dimensional model simulation of 1,3-D volatilization and transport in a field soil. J. Environ. Qual. (in press).
329. Wang, D; Yates, SR. 1999. Spatial and temporal distributions of 1,3-dichloropropene in soil under drip and shank application and implications for pest control efficacy using concentration-time index. Pesti. Sci. 55:154-160.
330. Wang, D; Yates, SR; Gan, J; Knuteson, JA. 1999. Atmospheric volatilization of methyl bromide, 1,3-dichloropropene, and propargyl bromide through two plastic films: transfer coefficient and temperature effect.

Atmospheric Environ. 33:401-407.

331. Wetzel, S., M.K. Banks, and A.P. Schwab. 1997. Effects of the rhizosphere on the degradation of pyrene and anthracene in soil. Amer. Chem. Soc. Spec. Publication.
332. Whitford, F., J. Wolt, H. Nelson, M. Barrett, S. Brichford and R. Turco. 1995. Pesticides and water quality. Purdue Pesticides Programs. PPP-35. pages 57.
333. Williams, C. F., W. J. Farmer, J. Letey and S. D. Nelson. 1999. Design and characterization of a new dialysis chamber for investigating DOM - napropamide complexes. J. Environ. Qual. 28: 1757-1760.
334. Williams, C. F., W. J. Farmer, J. Letey and S. D. Nelson. 1999. Molecular weight of dissolved organic matter-napropamide complex as affected by napropamide-soil application methods. J. Environ. Qual. 28: 1429-1435.
335. Wilson, J.P., W.P. Inskeep, J.M. Wraith and R.D. Snyder. 1996. GIS-Based solute transport modeling applications: Scale effects and estimation methods. J. Environ. Qual. 25: 445-453.
336. Wiltse, C.C., W.L. Rooney, Z. Chen, A.P. Schwab, and M.K. Banks. 1998. Detection of variability for agronomic and phytoremediation potential among alfalfa clones grown in crude oil contaminated soil. J. Environ. Qual. 24:220-224.
337. Wise, W.R., D. Dai, E.A. Fitzpatrick, L.W. Evans, P.S.C. Rao, and M.D. Annable. 1999. NAPL Characterization via Partitioning Tracer Tests: A Modified Langmuir Relation to Describe Partitioning Nonlinearities, Journal of Contaminant Hydrology, Vol. 36, No. 1-2, pp. 153-165.
338. Wise, W.R., M.D. Annable, J.W. Jawitz, and L.W. Evans. 1999. Issues involved with applying partitioning tracers to characterize in-situ NAPL. Proceedings of the International Water Resources Engineering Conference, CD-ROM, Seattle, Washington, August 8-11, American Society of Civil Engineers.
339. Woodrow, J.E. and J.N. Seiber. 1997. Correlation techniques for estimating pesticide volatilization flux and downwind concentrations. Environ. Sci. Technol. 31:523-529.
340. Woodrow, J.E. and J.N. Seiber. 1997. The laboratory characterization of jet fuel vapor under simulated flight conditions. Final Report to National Transportation Safety Board, November, 48 pp.
341. Woodrow, J.E., J.S. LeNoir and J.N. Seiber. 1997. Soil as a terrestrial sink for methyl bromide fumigant: Preliminary results. Chemosphere 35:2543-2551.
342. Wujcik, C.E., T.M. Cahill and J.N. Seiber. 1998. Extraction and analysis of trifluoroacetic acid in environmental waters. Anal. Chem. 70:4074-4080.
343. Wujcik, C.E., T.M. Cahill, and J.N. Seiber. 1999. Determination of trifluoroacetic acid in 1996-1997 precipitation and surface waters in California and Nevada. Environ. Sci. Technol. 33: 1747-1751.
344. Xia, K., and C. W. Rice. 1999. The Association of Ethylene Dibromide With Mature Cranberry (*Vaccinium macrocarpon*) Fruit. Technical Report to the Air Force Center for Environmental Excellence.
345. Xu, J. M., H. H. Cheng, W. C. Koskinen, J. A. E. Molina. 1997. Characterization of potentially bioreactive soil organic carbon and nitrogen by acid hydrolysis. Nutr. Cycl. Agroecosys. 49:267-271.
346. Xu, Jianmin, W.C. Koskinen and H.H. Cheng. 1997. Fate of metolachlor in a sandy loam soil. Acta Sci. Circulstan. 17:464-468.
347. Xu, Jianmin, W.C. Koskinen and H.H. Cheng. 1997. Movement and degradation of metribuzin in a sandy loam soil. China Environ. Sci. 17:316-320.
348. Yates, S.R. and J. Gan, Methods for removing and decomposing methyl bromide from fumigation gases. Patent No. 5,904,909. Issued: May 18, 1999.
349. Yates, S.R. and J. Gan. 1998. Volatility, adsorption, and degradation of propargyl bromide as a soil fumigant. J. Agric. Food Chem. 46:755-761.
350. Yates, S.R., D. Wang, F.F. Ernst and J. Gan. 1997. Methyl bromide emissions from agricultural fields. Bare- soil deep injection. Environ. Sci. Technol. 31:1136-1143.
351. Yates, S.R., D. Wang, J. Gan, and F. F. Ernst. 1998. Minimizing methyl bromide emissions from soil fumigation. Geophys. Res. Lett. 25:1633-1636.
352. Yates, S.R., J. Gan, F.F. Ernst, D.Wang and M.V. Yates. 1997. Emission of methyl bromide from agricultural fields. Recent loss estimates and methods of reduction. In J.N. Seiber, J.A. Knuteson, J.E. Woodrow, N.L Wolfe, Yates, M.V. and S.R. Yates (eds.): Fumigants: Environmental Fate, Exposure and Analysis, ACS Symposium Series No. 652, pp. 116-134.
353. Zhang, RD; Shouse, P; Yates, S. Estimates of soil nitrate distributions using cokriging with pseudo-crossvariograms. J. Environ. Qual. 1999, 28:424-428.